

Work Order ID 54919

January 7, 2010 10:49:15 AM

Page 1

Item ID: D206-642-241

Reference:

Revision ID:

Item Name: Replacement Skidtube

Start Date: 1/07/10

Start Qty: 1.00

Cust Item ID:

Required Date: 1/18/10

Req'd Qty: 1.00

Customer ID:

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr		Revision Nbr									
D2650		Rev F									

100

DC

Document Control

0.00

0.00

Memo

DOCUMENT CONTROL

Photocopy bluefile & type labels per PPP D206-642-241 CHG005

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
1	101	101									
2	101	101									
3	101	101									
4	101	101									
5	101	101									
6	101	101									
7	101	101									
8	101	101									
9	101	101									
10	101	101									
11	101	101									
12	101	101									
13	101	101									
14	101	101									
15	101	101									
16	101	101									
17	101	101									
18	101	101									
19	101	101									
20	101	101									
21	101	101									
22	101	101									
23	101	101									
24	101	101									
25	101	101									
26	101	101									
27	101	101									
28	101	101									
29	101	101									
30	101	101									
31	101	101									
32	101	101									
33	101	101									
34	101	101									
35	101	101									
36	101	101									
37	101	101									
38	101	101									
39	101	101									
40	101	101									
41	101	101									
42	101	101									
43	101	101									
44	101	101									
45	101	101									
46	101	101									
47	101	101									
48	101	101									
49	101	101									
50	101	101									
51	101	101									
52	101	101									
53	101	101									
54	101	101									
55	101	101									
56	101	101									
57	101	101									
58	101	101									
59	101	101									
60	101	101									
61	101	101									
62	101	101									

110 Skid tubes

Skidtubes

Skidtubes

0.00	0.00
------	------

Memo

1-Deburr Fwd edge of tube

2- Remove ridge on inside of Fwd edge of tube as per Dwg D2650

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

A/R. 11 Aluminum Rod: M112860/M112507

4-Grind weld flush to cap on top surface only.

5-Cut Aft end as per dwg 2650 from front of tube and
Deburr

6-Remove inner indexing ridge on Aft end of skidtube as per Dwg D2650

7-Open holes for Aft end cap as per Dwg D2650 with #30 Drill Bit using DT8025.

8-Drill pilot holes using Dt 8167.

9-Locate DT8732 from inner Aft saddle hole & 3rd crossbolt hole. Insert D3286-1 doubler using DT8732 & D206-642-241-T1, then locating doubler off of 3/16" holes, cleco DT8732 & doubler leaving DT8732 for added support.

AWM 10-1-13

1112507 BE 10-1-15
BE 10-1-15

AWM 10-1-15

M 10/1/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval: Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
		10- Drill D3286-1 doubler rivet holes in tube using # 30 drill, spot drilling doubler at the same time.									
		11-Working from the center out, drill # 30 holes into D3286-1 doubler. Cleco each hole as it is being drilled. Verify angle of holes to accommodate rivet heads.									
		12-Remove 3/16" cleco's only and open GHW holes to Ø0.500" as per Dwg D2650									
		13-Remove D3286-1 doublers, identify orientation, deburr, then attach them to the workorder									
		14-Remove indexing edge using DT8741 as per Dwg D2650									
		15-C'sink GHW rivet holes as per Dwg D2650									

120

QC

Quality Control

Memo

QC6- Inspect dimensions to drawing

0.00

0.00

⇒ S 10/01/19

④

6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Sequence ID	Work Center ID	Operation Description	Hours		Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
			Set Up	Run							
130	Skidtubes	Skidtubes	0.00	0.00							
	Skidtubes										
	Memo	1-Open crossbolt holes to Ø0.3125"									
		2-Drill pilot holes using DT8028-3, then open to Ø0.297" as per Dwg D2650. Open Aft cap hole #6.									
		3-Deburr tube and blow out chips from inside the tube									
140	HandFinish	Chemical Conversion Coat per QSI005 4.1	0.00	0.00							
	Hand Finishing										
	Memo										
150	QC	QC3- Inspect Part Finish	0.00	0.00							
	Quality Control										
	Memo										

H 10/1/20

H 10/1/20

BE 10/01/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Qty: 1.00

Cust Item ID:

Required Date: 1/18/10

Req'd Qty: 1.00

Customer ID:

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Skidtubes	Skidtubes	0.00	0.00							
		Memo									
		1-Open holes to finished size as per Dwg D2650, D2650-3 Drilling Detail (without cutting fluid)									
		2-C'sink crossbolt spacer holes as per Dwg D2650(without cutting fluid)									
		3-Deburr and blow out all chips from inside the tube									
170	QC	QC6- Inspect dimensions to drawing	0.00	0.00							
	Quality Control	Memo									

H 10/11/20

78 10/10/20

(70)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Item Name: Replacement Skidtube

Start Date: 1/07/10

Start Qty: 1.00

Cust Item ID:

Required Date: 1/18/10

Req'd Qty: 1.00

Customer ID:

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Skidtubes	Skidtubes	0.00	0.00							
		Memo									
		1-Locate, install and rivet doublers as per Dwg D2650. Micro-shave rivets as required									
		2-Bond D2654-3 web in place as per QSI 015. Ensure holes line up. Allow 12 Hrs. cure time before cutting									
		Start Date: 1/11/10 Time: 2:30									
		Finish Date: 1/11/10 Time: 8:30 AM									
		Pick:									
		Qty: 1 Part Number: Description: Batch									
		A/R: Sikaflex-291, M112395									
		Sikaflex expire date: 10/9/30									
190	QC	QC5- Inspect part completeness to step on W/O	0.00	0.00							
	Quality Control										
		Memo									

H 10/1/20

27 S 10/1/21

(46)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Page 7

January 7, 2010 10:49:26 AM

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Required Date: 1/18/10

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Customer ID:

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Skidtubes	Skidtubes	0.00	0.00							
		Memo									
		1-remove alodine from around hole and prepare for welding									
		2-Prep per QSI 005 and Insert D2649 crossbolt spacers. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod. Pick: Qty Part Number Description Batch A/R Aluminum Rod									
		3-Grind welds flush as per Dwg D2650.									
		4-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.402" before welding other side. Use SS rod as required. A/R SS Rod									
		5-Counterbore 5/16" x 0.750" deep except 7th hole from Aft end as per Dwg D2650. Deburr									
210	HandFinish	HandFinishing	0.00	0.00							
	Hand Finishing	Memo									
		Install D2680-041 Nut Plate as per Dwg D2650									

BE 10/01/21

BE 10/01/21

BE 10/01/21

M 10/11/25

M 10/11/25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

January 7, 2010 10:49:32 AM

Reference:

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Item Name: Replacement Skidtube

Start Date: 1/07/10

Start Qty: 1.00**Cust Item ID:****Required Date:** 1/18/10**Req'd Qty: 1.00****Customer ID:**

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

[illegible]

Work Order ID 54919

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Item ID: D206-642-241

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Start Date: 1/07/10

Start Qty: 1.00

Cust Item ID:

Required Date: 1/18/10

Req'd Qty: 1.00

Customer ID:

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	HandFinish	HandFinishing	0.00	0.00							
	Hand Finishing	<p>Memo</p> <p>1- Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate. A/R: Sikaflex-291 <u>M112345</u>. Sikaflex expire date: <u>10/08</u></p> <p>2-Install D2651-3 O-Rings on D2651-1 plugs with Petroleum Jelly and install plugs as per Dwg D2650 (D2650-3 detail). Clean excess adhesive.</p> <p>3-Install MS27039-4-06 Screw as per DEO 9153.</p> <p>4 -Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive A/R: Sikaflex-291 <u>M112345</u>. Sikaflex expire date: <u>10/08</u></p> <p>5 -Wing Walk as per Dwg D2650-3 and QSI 005 4.4 A/R Batch: <u>M1113545</u></p>									
300	QC	QC5- Inspect part completeness to step on W/O	0.00	0.00							
	Quality Control	<p>Memo</p>									

BR 1001-28 ①

AK 1001-28 ①

S 10/1/29 (X)

Work Order ID 54919

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Item ID: D206-642-241

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Start Date: 1/07/10

Start Qty: 1.00

Cust Item ID:

Required Date: 1/18/10

Req'd Qty: 1.00

Customer ID:

Customer Name:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Hours

Sequence ID	Work Center ID	Operation Description	Set Up	Run	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
310	Packaging	Packaging	0.00	0.00							
	Packaging	Memo									
		Identify and pack for shipping as per PPP D206-664-241									
		Location: _____									
		PPP Rev: _____									
320	QC	QC21- Final Inspection - Work Order Release	0.00	0.00							
	Quality Control	Memo									

PP

54911

10-2-3 &

10/02/04 JG

MF

10-2-3

Picklist Print

January 7, 2010 10:48:41 AM

Page 1

Work Order ID: 54919

Parent Item: D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 Revised procedural steps KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------



D3286-1
Doubler

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

45

47692

15

52844

30

110

Each

7.0000

1.0000

D2647

Manufactured

No



Cap

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

7

10773

7

110

Each

57.0000

1.0000

D2600-1-160

Manufactured

No



Extrusion Round 3" 206

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

57

43969

57

B-54448 - AWM 10-01-13

2 H 10/1/18

255352 (X1) BE 10/01/15

0-2620 E 10.01.13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

January 7, 2010 10:48:41 AM

Work Order ID: 54919



Parent Item: D206-642-241



Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02i Revised procedural steps: IKJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2654-3		Manufactured	No			180	Each	6.0000	1.0000			



Web

Warehouse Location	Loc Qty	Loc Code
-----------------------	---------	----------

Main Warehouse

ST	6	
----	---	--

48679	6	
-------	---	--

CR3212-4-04

Purchased

No

180

Each

286.0000

52.0000



Cherry Rivet

Warehouse Location	Loc Qty	Loc Code
-----------------------	---------	----------

Main Warehouse

ST	286	
----	-----	--

109297	26	
--------	----	--

109740	16	
--------	----	--

110153	6	
--------	---	--

111127	78	
--------	----	--

112314	20	
--------	----	--

112612	140	
--------	-----	--

1 1/10/11/20

55 1/10/11/20

W/O:		WORK ORDER CHANGES					
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Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 Revised procedural steps [KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC]

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2649		Manufactured	No			200	Each	202.0000	18.0000			



Cross Bolt Spacer



Warehouse Loc Qty Loc Code
Location

Main Warehouse

LG 83

51529 83

Main Warehouse

ST 119

36013 5

47112 110

48271 4

D3286-3 Manufactured No

200 Each 31.0000 2.0000



Spacer



Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 31

35048 1

41900 1

46643 29

18 BE 10/01/25

2 BE 10/01/21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 1/07/10

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Comments: IPP Rev: 04.12.02 [Revised procedural steps] KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2680-041		Manufactured	No			210	Each	65.0000	1.0000			



Nut Plate



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

65

33061

1

44086

64

CR3212-4-03

Purchased

No

210

Each

274.0000

2.0000



Cherry Rivet



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

274

111359

84

112314

190

1355366

1 1/10/1/25

2 1/10/1/25

January 7, 2010 10:48:42 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:48:43 AM

Work Order ID: 54919



Parent Item: D206-642-241



Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 [1] Revised procedural steps [KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:ECL

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
CCR264SS3-3		Purchased	No			210	Each	333.0000	2.0000			



Cherry Rivet



Warehouse	Loc Qty	Loc Code
Location		

Main Warehouse

ST	333	
111548	20	
111827	1	
112314	20	
113064	92	
113539	200	

D2646

Manufactured No

270 Each 63.0000 1.0000



Aft Cap



2 1/10/11/25

Warehouse	Loc Qty	Loc Code
Location		

Main Warehouse

FP6	29	
52663	29	
Main Warehouse		
fp7	13	
52663	13	

Main Warehouse

ST	21	
46327	4	
48109	17	

1 BR 10-01-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:48:43 AM

Work Order ID: 54919



Parent Item: D206-642-241



Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 Revised procedural steps [KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC]

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2651-1		Manufactured	No			270	Each	594.0000	18.0000			



Plug

Warehouse Loc Qty Loc Code
Location

Main Warehouse

fpa 295

53349 295

Main Warehouse

ST 299

43990 57

51530 ✓ 242

AN960JD416

Purchased

No

270

Each

1,489.000 1.0000



Washer

Warehouse Loc Qty Loc Code
Location

NAS1149 DD463J

Main Warehouse

ST ~~113288~~ 1489

103691 20

104215 6

108161 329

110523 340

111279 101

111916 482

112314 211

16941 0

1 OK 10-01-28.

January 7, 2010 10:48:43 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:48:44 AM

Work Order ID: 54919



Parent Item: D206-642-241



Parent Item Name: Replacement Skidtube



Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 Revised procedural steps KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2651-3		Manufactured	No			270	Each	783.0000	18.0000			
												
O-Ring												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 783

43849 3

46114 ✓ 780

MS27039-1-08

Purchased

No

270

Each

2,792.000

46.0000



Screw

18 BR 10-a-28

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 2792

110467 112

110552 ✓ 680

110835 2000

ALS4-1032-130

Purchased

No

270

Each

2,651.000

44.0000



Insert

46 BR 10-a-28

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 2651

110511 ✓ 2651

January 7, 2010 10:48:44 AM

Shop Packet Print

44 BR 10-a-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:48:44 AM

Work Order ID: 54919



Parent Item: D206-642-241



Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02(1) Revised procedural steps(1) KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS27039-4-06		Purchased	No			270	Each	57.0000	1.0000			



Screw

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

57

109061 ✓

57

AN960JD10L

Purchased

No

270

Each

4,821.000

46.0000



Washer

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

4821

101291

16

104885

16

105793

185

109632

170

110985 ✓

4434

1 BR 10-a-08

46 BR 10-a-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:49:03 AM

Work Order ID: 54919

Parent Item: D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 [Revised procedural steps] KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3537-1		Manufactured	No			270	Each	141.0000	4.0000			



Wearpad

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

2

48288

2

Main Warehouse

FP17

139

51678

34

51679 ✓

105

D3537-3

Manufactured

No

270

Each

40.0000

1.0000



Wearpad

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

40

33881

6

35697 ✓

34

4 BR 10-01-28.

1 BR 10-01-28.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:49:04 AM

Work Order ID: 54919

Parent Item: D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 [Revised procedural steps] KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:ECL

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3535-13		Manufactured	No			270	Each	21.0000	1.0000			
Wearshoe												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

21

37584 ✓

7

~~37593~~ ✓

14

D3536-13

Manufactured

No

270

Each

17.0000

1.0000

Gasket

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

17

38761 ✓

17

D3535-21

Manufactured

No

270

Each

9.0000

1.0000

Wearshoe

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST

9

37624 ✓

9

January 7, 2010 10:49:04 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 7, 2010 10:49:09 AM

Work Order ID: 54919

Parent Item: D206-642-241

Parent Item Name: Replacement Skidtube

Start Date: 1/07/10

Required Date: 1/18/10

Comments: IPP Rev: 04.12.02 [Revised procedural steps KJ/JLM IPP RevP: revise and update route/bom DD 10.01.06 verified by:EC]

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D3536-21

Manufactured

No

270

Each

14.0000

1.0000



Gasket

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

14

37351

2

47010 ✓

12

D3535-33

Manufactured

No

270

Each

13.0000

1.0000



Wearshoe

1 BR 10-01-28.

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

13

51647 ✓

13

D3536-33

Manufactured

No

270

Each

12.0000

1.0000



Gasket

1 BR 10-01-28.

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

12

51593 ✓

12

1 BR 10-01-28.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2645	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 54919

10-1-05

RELEASED
08-08-08

F

NOTES:

MATERIAL: N/A
FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4

TOLERANCES: PER DART QSI 016 UNLESS OTHERWISE NOTED

UNITS: INCHES UNLESS OTHERWISE NOTED

BREAK SHARP EDGES: 0.005 TO 0.010 MAX

IDENTIFICATION: NONE

WEIGHT: N/A

WELO PER DART QSI 004

DAMAGE TOLERANCE ON FWD BEND:

THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GGUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015

) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED "P" (BOTH SIDES OF TUBE)

) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.

) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DESIGN	DS	DESCRIPTION	BY	DATE
DRAWN	AJS	DART AEROSPACE USA, INC		
CHECKED		PORT HADLOCK, WA		
MFG. APPR.		DRAWING NO.	REV. F	
DE APPR.		D2650	SHEET 1 OF 6	
DATE	08.08.08	TITLE	SCALE	
		205/407 SKIDTUBE ASSEMBLIES	NTS	
		COPYRIGHT © 1997 BY DART AEROSPACE USA, INC.		
		THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		

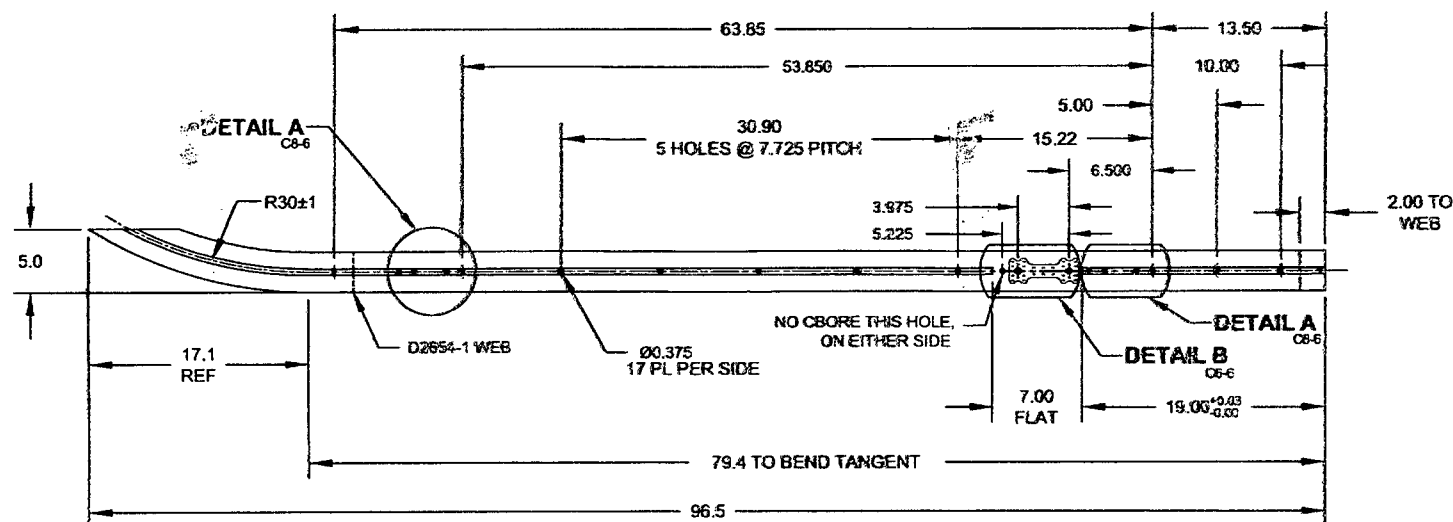
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

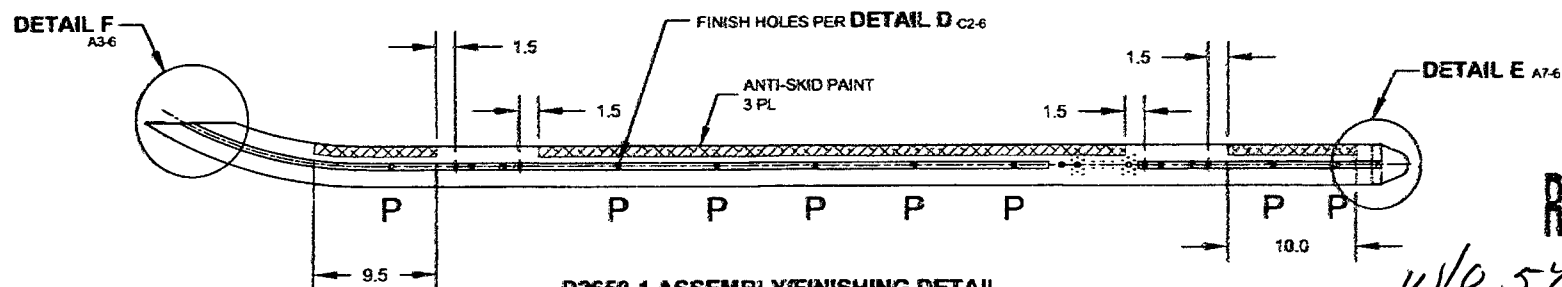
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-1 BENDING/DRILLING DETAIL



D2650-1 ASSEMBLY/FINISHING DETAIL

RELEASED
80122103

W/0 54919

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
WFG. APPR.		D2650	SHEET 2 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	<small>COPYRIGHT © 1997 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED OR APPLIED FOR ANY PURPOSE WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

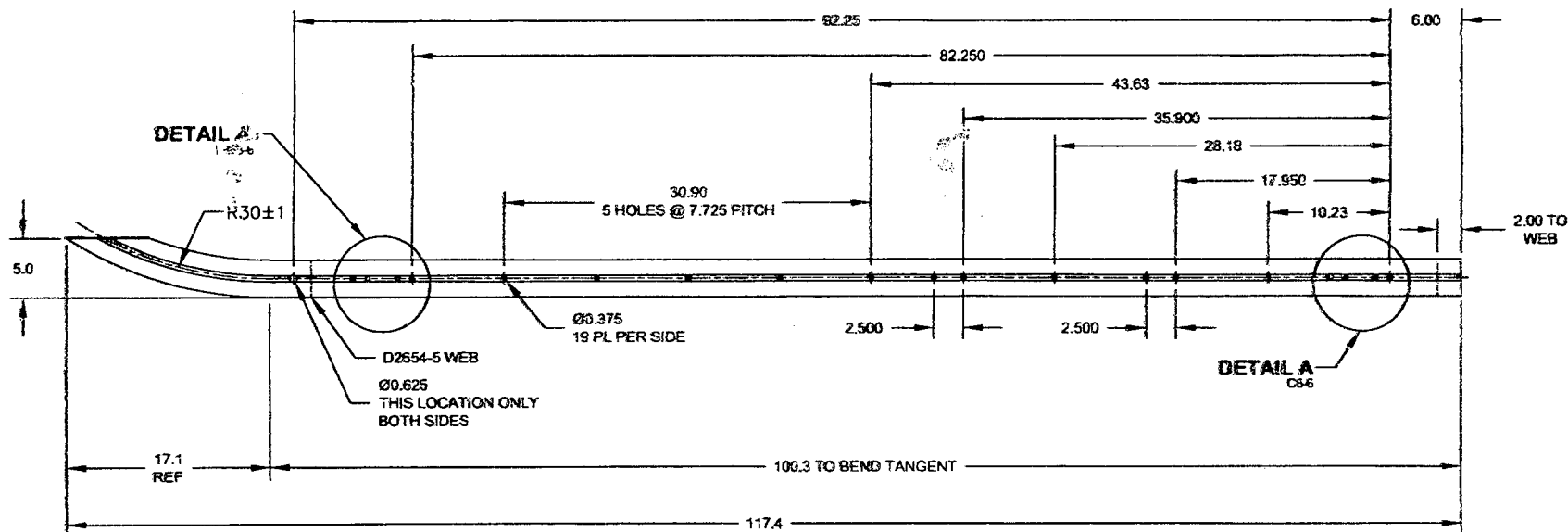
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

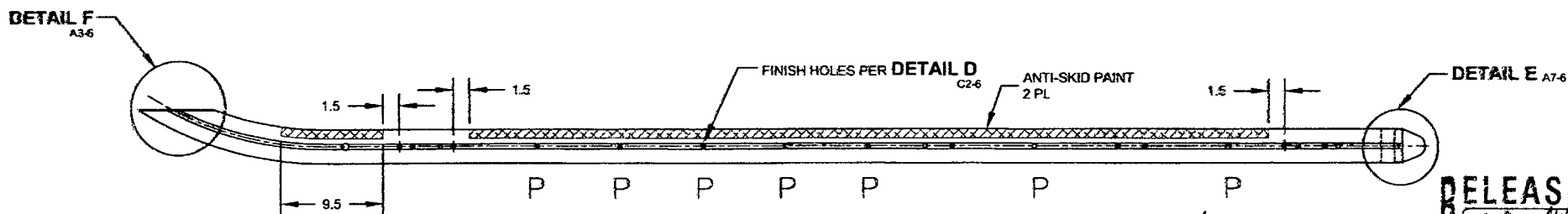
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2650-5 BENDING/DRILLING DETAIL



D2650-5 ASSEMBLY/FINISHING DETAIL

1610 54819

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	A/S	PORT HADLOCK, WA	
CHECKED	J	DRAWING NO.	REV. F
MFG. APPR.	B	D2650	SHEET 4 OF 6
APPROVED	AP	TITLE	SCALE
DE APPR.	J	206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	<small>COPYRIGHT © 1987 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRELIMINARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED BY ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

RELEASED

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

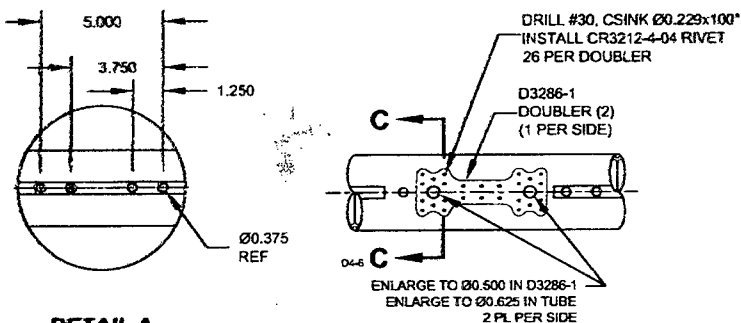
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

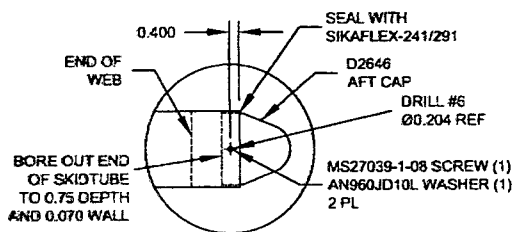
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



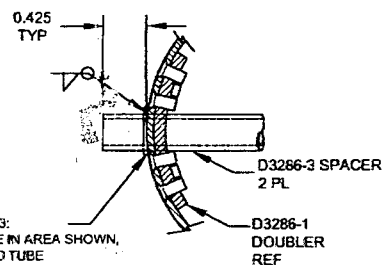
DETAIL A
SCALE 2X
C2-2
D7-2
C2-3
D7-3
C2-4
D7-4
C2-5
D6-5

DETAIL B
SCALE 2X
C3-2
C3-3

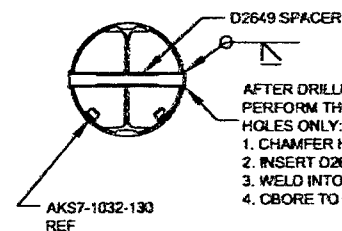


DETAIL E
SCALE 2X
B2-2
B2-3
B1-4
B1-5

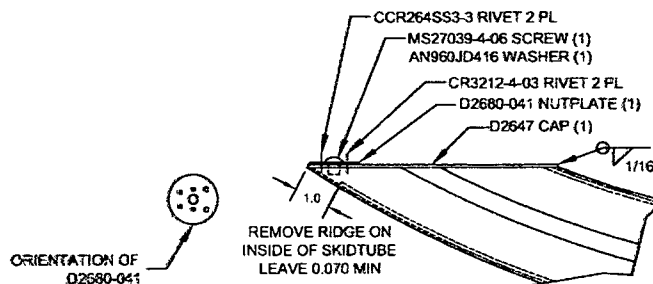
SECTION C-C C7-E
SCALE NONE



- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.030x45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE.



DETAIL D
FOR Ø0.375 HOLES ONLY
SCALE 3X
B4-2
B4-3
B4-4
B4-5



DETAIL F
SCALE NONE
B8-2
B8-3
B8-4
B8-5

- DETAIL F NOTES:**
1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D2647 (TRIM AS NECESSARY)
 4. WELD D2647 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D2680-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
65 10 22/13

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1987 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 216

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: D206 52867
Part number: D206 642-541
Description: 206 skid
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier P. J. D. S. Date of Test Coupon 09-11-10
Welder Barclay Elliott Date of Test Coupon 09-11-10

The above named individual is qualified in accordance with AWS D17.1.2001 to weld